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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,682	06/28/2001	Magnus Danielson	09490-0009-00	7063

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EXAMINER	
LE, VIET Q	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/831,682	DANIELSON ET AL.	
	Examiner	Art Unit	
	Viet Q. Le	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *4-10,14,15,19-25,29,33-37 and 41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,11-13,16-18,26-28,30-32 and 38-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/28/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

Reference character "10" has been used to designate both the nodes in fig. (1a or 1b or 1c), 3, 4a, 4b and 5.

Reference character "20" has been used to designate both the nodes in fig. (1a or 1b or 1c), 3, 4a, 4b and 5.

Reference character "30" has been used to designate both the nodes in fig. (1a or 1b or 1c), 3, 4a, 4b and 5.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

3. The disclosure is objected to because of the following informalities:

There is no network loop 32 in fig. 1a as described on page 9 of the application.

There is no network loop 31 in fig. 1a as described on page 9 of the application.

There is no network loop 33-35 in fig. 1a as described on page 10 of the application.

There are no figures 5a and 5b as described on page 16 of the application.

Appropriate correction is required.

4. Claims 4-10, 14-15, 19-25, 29, 33-37 and 41 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 4-10, 14-15, 19-25, 29, 33-37, 41 are not been further treated on the merits.

5. Claim 28 is objected to because of the following informalities: Examiner think that the applicant may mean to say "A method as claimed in claim 26 or 27, ..." instead of as written "A method as claimed in claim 26 or 26, ...". Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 11-13, 16-18, 26-28, 30-32 and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Song-Chyau S. Liang et al. (U.S. 5,732,086), hereinafter referred to as Liang.

Regarding claim 1, Liang disclosed a method for determining the topology of a network of nodes that are interconnected comprising the steps of: determining the existence of a network loop within said network using message forwarding among said nodes (Reference teach the message exchange between a node and adjacent node to determine the topology of the network. See column 3, lines 36-40; see column 6, lines 54-57); and distributing information related to the existence of said network loop within said network (Reference teach the distribution of topology information to nodes to update the network topology. See column 3, lines 50-54; See column 5, lines 65-67; See column 6, lines 6-9, 21-25).

Regarding claim 2, Liang disclosed a method determining the existence of a network loop comprising the steps of: transmitting a message from an output port of a first node (See column 6, lines 54-57); and receiving a forwarded/reply version of said message at an input port of said first node (See column 6, lines 54-57).

Regarding claim 3, Liang disclosed a method determining the existence of a network loop comprising the steps of receiving a message at an input port of a node and forwarding said message on one or more output ports thereof (Reference disclose the method of sending messages to nodes and receiving the feedback from these nodes about the network topology connections. Once receiving these network topology feedback, messages will be sent to all nodes to update the latest network topology information. See column 3, lines 50-54; column 4, lines 21-24).

Regarding claim 11, Liang disclosed a system for determining the topology of a network of nodes that are interconnected via unidirectional connections, comprising a first node that is arranged to transmit a message from an output port thereof (Reference teach the message exchange between a node and adjacent node to determine the topology of the network. See column 6, lines 1-3; see column 3, lines 36-40), to determine the existence of a network loop within said network by determining reception of a forwarded/reply version of said message at an input port thereof (Reference teach that by receiving the message feedbacks from nodes, the transmitting node will know about the network topology information. See column 6, lines 3-6), and, as a result to distribute information related to the existence of said network loop to nodes within said network (Reference teach the distribution of topology information to nodes to update the network topology. See column 5, lines 65-67; see column 6, lines 6-9, 21-25; see column 3, lines 50-54).

Regarding claim 12, Liang disclosed a system comprising one or more second nodes being arranged to forward the receiving message on one or more output ports (See column 3, lines 48-54).

Regarding claim 13, Liang disclosed a system, wherein said nodes are arranged to distribute information on the existence of said network loop by message forwarding (Reference teach the distribution of topology information to nodes to update the network topology. See column 5, lines 65-67; see column 6, lines 6-9, 21-25; see column 3, lines 50-54).

Regarding claim 16, Liang disclosed a method for determining a reconfigurable topology, each node connectable to other nodes via unidirectional connections, said method comprising the steps of: transmitting probe messages from output ports of an originating node (Reference teach the message exchange between a node and adjacent node to determine the topology of the network. See column 3, lines 36-40; see column 6, lines 54-57), each probe message being provided with information identifying the output port that it is transmitted from (Reference teach about the message that is transmitted from the node to an adjacent node containing information like: link identifier, sending node, link port, destination node. See column 5, lines 34-43); receiving probe replies at input ports of the originating node, each probe reply including information identifying a probe message that the probe reply is a reply to as well as information identifying the probe reply (See column 5, lines 44-54); and determining if a valid connection exists from an output port of the originating node to a neighbor node by determining if a received probe reply identifies a probe message that has previously

been sent from an output port of the originating node and if so causing transmission of a link detected message from said output port (Reference disclose the method of sending messages to nodes and receiving the feedback from these nodes about the network topology connections. Once receiving these network topology feedback, messages will be sent to all nodes to update the latest network topology information. See column 5, lines 44-54).

Regarding claim 17, Liang disclosed a method further comprising the steps of: storing topology information identifying nodes that, as far as the originating node is aware, are connected to the same link (Reference disclose the update capability within each node. This implies that each node must have a memory storing the network topology update information. See column 5, lines 55-67); and transmitting a link topology message from said output port (See column 3, lines 50-54, lines 65-67; see column 6, lines 6-9, 21-25).

Regarding claim 18, Liang disclosed a method further comprising the step of forwarding a received probe reply to other nodes if the probe reply is determined not to identify a probe message that has previously been sent from an output port of the originating node (Reference disclose message with addresses associated with each message sent. From reading these addresses, nodes will know whether or not they would need to forward the message on to other nodes. See column 6, lines 12-16).

Regarding claim 26, Liang disclosed a method for locally distributing topology information among nodes, said method comprising the steps of: storing topology information identifying nodes (Reference disclose the update capability within each

node. This implies that each node must have a memory storing the network topology update information. See column 5, lines 55-67); receiving link topology messages at input ports of the node, each message including information identifying the link that it pertains to as well as topology information identifying nodes connected to said link (Reference disclose that link topology update information received at inputs with all information about link information and transmitted message information. See column 5, lines 46-67); updating, for each received link topology message, stored topology information in accordance with topology information provided by the received link topology message (Reference teach updating and storing topology information after receiving the reply message sent. See column 5, lines 46-67); and transmitting, for each received link topology message, a link topology message including information identifying the link that it pertains to as well as topology information identifying nodes that, as far as the node is aware, are connected to said link (Reference teach the distribution of topology information to nodes to update the network topology. See column 3, lines 50-54; See column 5, lines 46-67; See column 6, lines 6-18).

Regarding claim 27, Liang disclosed a method wherein said updating step is performed only if the topology information provided in the received topology message is new as compared to already stored topology information regarding the link that the topology message pertains to (Reference teach about updating the network topology. This implies that the information is only updated if and only if the information is new and different from the stored information. See column 5, lines 55-67; see column 6, lines 64-67).

Regarding claim 28, Liang disclosed a method, wherein said transmitting step is performed only if the received link topology message provides topology information that is new as compared to already stored topology information regarding the link that the topology message pertains to (Reference teach about updating the network topology. This implies that the information is only updated if and only if the information is new and different from the stored information. This also implies that the network topology-updating message is only sent if and only if the topology information is new comparing the topology information already stored at the node. See column 5, lines 55-67; see column 6, lines 64-67).

Regarding claim 30, Liang disclosed a system for determining a reconfigurable topology, at least Locally, of nodes in a communication network, an originating node further comprising: transmitter means for transmitting probe messages from output ports of the originating node, each probe message being provided with information identifying the output port that it is transmitted from (Reference teach the message exchange between a node and adjacent node to determine the topology of the network. Reference also stated that a node must have transmitter and receiver means to send and receive this message. See column 3, lines 36-40; see column 6, lines 1-3, 54-57; see column 4, lines 26-65); receiver means for receiving probe replies at input ports of the originating node, each probe reply including information identifying a probe message that the probe reply is a reply to as well as information identifying the probe reply (See column 4, lines 26-65; See column 6, lines 3-6, 54-57); and logic means for determining if a valid connection exists from an output port of the originating node to a neighbor node by

determining if a received probe reply identifies a probe message that has previously been sent from an output port of the originating node and if so causing transmission of a link detected message, provided with information identifying the probe reply (Reference teach about process and method of detecting the receiving message from the previously sent message to determine about the connection between nodes. Reference also each about the node controller and processor processing the receiving message. See column 4, lines 26-65; See column 5, lines 65-67; see column 6, lines 6-9, 21-25; see column 3, lines 50-54).

Regarding claim 31, Liang disclosed a system, wherein any two unidirectional connections connected to the same interface herein being considered to form part of the same link, said method further comprising: memory means for storing, for each interface of said originating node, topology information identifying nodes that, as far as the originating node is aware, are connected to the same link as the interface (see column 4, lines 26-65; See column 5, lines 55-67), said logic means, if having determined that a valid connection exists from an output port of the originating node to another node, being arranged to cause transmission of a link topology message, provided with information identifying said connection as well as topology information identifying nodes (See column 4, lines 26-65; See column 5, lines 65-67; see column 6, lines 6-9, 21-25; see column 3, lines 50-54).

Regarding claim 32, Liang disclosed a system with logic means, if determining that a received probe reply does not identify a probe message that has previously been transmitted from an output port of the originating node, being arranged to cause

forwarding of the probe reply to other nodes (See column See column 3, lines 50-54; column 4, lines 21-24; see column 6, lines 12-16).

Regarding claim 38, Liang disclosed a system for locally distributing topology information among nodes in a communication network, a node comprising: memory means for storing topology information identifying nodes as well as information identifying a suggested output port of the node that the node may use for sending topology information on said link (See column 4, lines 26-65; See column 5, lines 55-67); receiver means for receiving link topology messages at input ports of the node, each message including information identifying the link that it pertains to as well as topology information identifying nodes connected to said link (See column 4, lines 26-65; See column 6, lines 3-6, 54-57); transmitter means for transmitting link topology messages from output ports of the node, each message including information identifying the link that it pertains to as well as topology information identifying nodes that (See column 4, lines 26-65; See column 3, lines 36-40; see column 6, lines 1-3, 54-57); logic means for updating topology information stored in said memory means in accordance with topology information provided by received link topology messages and for causing, for each received link topology message, transmission of a link topology message from the output port of the interface at which the received link topology message was received (See column 4, lines 26-65; See column 5, lines 65-67; see column 6, lines 6-9, 21-25; see column 3, lines 50-54).

Regarding claim 39, Liang disclosed a system having logic means being arranged to update topology information stored in said memory means only if topology

information provided in received topology messages is new as compared to already stored topology information (See column 4, lines 26-65; See column 5, lines 55-67; see column 6, lines 64-67).

Regarding claim 40, Liang disclosed a system as claimed having logic means being arranged to cause said transmission of a link topology message only if the received link topology message provides topology information that is new as compared to already stored topology information regarding the link that the topology message pertains to (See column 4, lines 26-65; See column 5, lines 55-67; see column 6, lines 64-67).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Andrew Paul Haley (U.S. 5,884,036), Method for determining the topology of an ATM network having decreased looping of topology information cells.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Le whose telephone number is 571-272-2246. The examiner can normally be reached on 8 AM -5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VL

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